

REMARKS
ON TWO LATE *S. G. C.*
PAMPHLETS

WRITTEN BY

Dr. Oliphant,

AGAINST

*Dr. Pittcairn's Dissertations,
and The New Theory of
Fevers.*

WHEREIN

Besides an Explication of C. O. and his In-
terpreters, several other surprising Appear-
ances of Nature are Mechanically account-
ed for.

By GEORGE CHEYNE, M. D. and *K*
Fellow of the ROYAL SOCIETY.

Demetri reg, Tigelli
Discipularum inter jubas plorare cathedras. Horat.

EDINBURGH
Printed in the Year, 1702. *16*

REMARKS

ON TWO LATE

PAMPHLETS

WRITTEN BY

Dr. Oliver



Dr. Oliver
and
M. A. N. I. N.

For

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By GEORGE ORVILLE M.D. F.R.S.
Fellow of the ROYAL SOCIETY

Printed by J. G. & J. H. B. in the Strand 1792

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PREFACE.

THERE is no State of men more wretched than that of *Authors*; If they mismanage, they meet with the deserved and unpitied Contempt, of all who see their Works, or even hear of their Names. And let them behave with all the sense and Address imaginable, they shall move the Spleen of the *Wou'd be's*, these *Insects* who make the greatest Splutter and Noise on the face of this Earth: If they write for the whole Herd, they raise as many Enemies, as there are half-witted Pretenders (i. e. ninty nine parts of an hundred) in the Book-learn'd World: And if they lay in only for the Few, These others shall have 'em on the Head of Obscurity and Pride. So that upon the whole matter, to write well is only tolerable, but not to write at all, is the wisest thing a Man of Sense can do. And I am sure, nothing can encourage an honest Man to instruct the World in despite of it self, but a conscious-

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ness he is doing his Duty, and promoting
one part of the Design of his Creation, viz.
The universal Benefit of Mankind.

Doctor Pitcairn, as the Nature of his
Employment required and as his own
singular Abilities and Advantages enabled him,
was going on in adorning the Province com-
mitted to his trust, and had imparted to the
publick, some of his privat Meditations
and Observations; But no sooner did
he appear in Print, but he was in hazard
of being Worried and torn in peices, by
two Bloody minded Beasts of Prey, who
fell upon him from different quarters; But
both with the same intent, being acted by
the same principle: However as good Luck
wou'd have it, It happened their rage was
only like that of Women, Impotent and loud:
The first has already got his Reward, and is
gone to his Place of Oblivion and Contempt,
and the other will in due time follow.

In order to this, I have been tempted to
consider the Quarrel a little, and to examin
two Pamphlets written by D. Oliphant against
D. Pitcairns Dissertations, and *The New
Theory of Fevers*: and I'm mistaken if I have
not managed the matter so, as that his Ob-
jections have not only had their own, but an
additional Force; and that the answers do
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not only meet them, but take in all that is possible to be said on these Heads.

It is very hard to apply *Geometry* to *Physiology*, with such Accuracy and Niceness, as to exclude all possibility of Wrangling: We must make some Allowances, & assume some *Data* (especially in the first Attempts of this Kind) else we shall never be able to enter thoroughly into the Matters we design to handle: But then, if we reason fairly, and reckon justly from these Allowances, all ingenious Men will be satisfied with such Performances, since it is all can be done in the present Condition of *Medicine* and *Philosophie*. Much Malice, a very little Wit and a superficial Knowledge of the Matter, may furnish out wherewith seemingly to expose the most accurat Performances of this Kind: But to find out where the Matter truly halts, and to discover where *Theories* are truly defective, requires other Mettle than C. O. is made of. Such as he may raise a little Dust, break a Window, or beat down a Chimney (tho in his late attacks, he has not done so much as these) But the Fort will stand safe and secure, when he and all his weak Efforts, and the vain Assaults of such poor Enemies, have ebb'd into the Nothing whence they came. Had I been of his counsel,

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fel; I cou'd have told him some Objections he might have made, with more shew of Reason, than these he has adduc'd; But whoever had the Capacity of making such, must have had the Ingenuity to acknowledge, they were such as were unavoidable in the present low Estate of *Medicine*; Both which requir'd a better Turn of Head & more Honesty, than C. O. has shown in his late Works.

I acknowledge I have written these Papers with more Edge, than became so grave a subject of Debate; But I'm afraid, those who consider the Maner after which he has treated my *Friend*, and the Personal Provocations I have receiv'd, will rather condemn me of *Insensibility* than *Passion*. It is impossible to read over his scurrilous and abusive Pamphletes, without some degree of *Indignation*; And C. O. (if he has any Sincerity) must acknowledge, I have treated him more civilly, than he deserv'd at my Hands, and have left many things unsaid, to bring him to a Sense of his Folly and ungratitude if possible.

As for the *Names* he calls me, I do not much trouble my self about them; they serve only (in all wise mens Opinions) to show the weakness of his Cause, the Distemper of his Mind, and how little able he is to manage a Debate without Weapons from

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Billingsgate. Call me what he pleases, I
am sure he can not call me *Charles Oliphant*.
He tells his Reader, He never intended to do
me any *Harm*, For which I thank him heartily,
and in Return I tell him, that neither he nor
any body else, ever dar'd to do me an inju-
ry, which I cou'd fix upon him, which I
wou'd not resent as became a *Gentleman*.
For *that fellow*, and such like Compliments,
I have not much to say. I do not design to
bring in any into this Quarrel, but those who
will necessarily intrude themselves; And I
think Vanity alone, sufficient to poison the
best Qualities belonging to the greatest men.
But one thus provok'd wou'd say something,
that he might not be account'd Stupid; And
therefore, without any further Ceremony, I
tell C. O. that I reckon my self his Superior
in every thing, for which one Gentleman is
justly more valuable than another; And I
challenge him to instance, wherein he thinks
the Advantage or Equality lyes on his Side.
There were once a few *Problems* of the mixt
kind, and of some use both in *Philosophie*
and *Medicin* which were hinted at in A. P.'s
Dissertations and *The New Theory of Fevers*,
propos'd to him in my Name, to shew he
did perfectly understand neither of these
Books: They were indeed such easie trifles,
that

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that I shou'd have been asham'd, to have offered them to any body else; But I knew a *Proposition* of *Euclid* wou'd be too hard for him; He very wisely declin'd 'em, disdain- ing to receive a Challenge from such a Hand: But ev'ry bod^y saw into the Matter, had he been able for 'em, we had heard of it; For ev'ry one knows that it is not the Hand from whom they are sent, but the Usefullness of the things, & the Difficulty of their *Investi- gation*, that is to be considered in such Mat- ters. I can when he pleases send him a Score such, of much greater difficulty, and of excel- lent use in *Medicine*, any one of which if he will undertake to solve of himself, we shall grant him to be *non adeo asequutus* as he brags: On the other Hand. If he will please to send me One, either relating to *Philosophie*, *Mathematicks* or *Medicine*, which himself can solve and I decline, I shall Subscribe my self *that little Pedant* he is pleas'd to call me. All he has said, or can say against me or any thing I have written, shou'd never have pro- vok'd me once to put Pen to Paper in Answer. I despise him too much, to have honour'd him with a Reply; For I do not value what they think of me, who can think well of C. O. But when my *Friend* was injured, and at the same time render'd incapable of doing
him;

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himself right, by business of the greatest importance to Mankind, I was willing to throw away a few leisure Hours, to expose the Weakness and Malice of his Adversary.

I was once resolv'd to have treated C. O. and his Labours only in *Ridicule*, and to have diverted the Reader at his Expense, without entring upon any thing that was serious; But upon second Thoughts, I considered that such a way of handling Matters, was more in the power of a *Player* or a *Fidler*, than that of even the most accomplished *Philosopher*; That to form a just and true Knowledge of *Nature*, requir'd much Labour and industry, close thinking and Application, an exact Knowledge of *Geometry* and *Numbers*, and nice Observations on the manifold Appearances; But that toward a *Jester* or *Punster*, there went nothing but much Forwardness, a trifling Humor and a wanton Fancy; And upon this Consideration, I resolv'd to lay the Debate upon the right Foot, and to make it go down with those who will not concern themselves about our Matters, I have giv'n several Hints of a Juster and newer manner of Explaining some Appearances in the *Animal OEconomy*, than has hitherto been published.

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C. O. is very angry with me, for speaking
so advantageously of A. P. in the *New
Theory of Fevers*: I do not intend here to
make his *Panegyrick*; I may perhaps have a
fitter Occasion to acknowledge my Obligati-
ons to him; But this I can say, that what I
there spoke of him, was not meant in Pre-
judice of any, who might lay a just Claim to
a share of the Gratitude of their Countrey,
for improving *Medicine* or any other Art or
Science in it. I cou'd instance a great many
of other Countries, who have publickly said
much more to his Advantage, than I did. If
some other Physicians of our Countrey (whom
I will not mention, without their own per-
mission) had made the same Complaint,
ho' they had no reason given them so to do,
had had less to say; But of all *Scots-men*
O. had the least reason to quarrel this:
For him (whose Talent may ly in passing
a smutty Jest, singing a Bawdy Song, or
puning a little Profainly on *Religion*, or so)
to take this so very highly, I think very
surprising: I assure him if I must flatter, these
are not the Endowments I mean to bedawb.
I owe Dr. *Pitcairn* all the Acknowledgments
in the World, for if ever I be able to do any
thing in *Medicine*, it was by him the Foun-
dations were laid, and by his incouragment
and

and Conversation I profited more, than by that of all Mankind's besides: But I neither owe him nor any body else, Obligations of any other Nature, which I am not able to repay in their own Coin: And Time will discover, whether he has laid out his Civilities on C. O. (who owes him as much as one Man can owe Another) or me to best Purpose.

C. O. complains he is not allow'd the same Liberty of *Philosophising* that others take; But really I think, they are his best Friends who hold his Hands fastest: Edg'd Tools ought to be kept from *Children* and *Mid-men*; and C. O. shou'd no more be suffered to use Pen, and Ink, than to Swallow *Ratsbane* or *Hemlock*; for the one will no more infallibly take away his Life, than the other will ruin his Reputation, which most prefer to Life it self. I have sufficiently discovered in the *New Theory of Fevers* how ridiculously he has blundered on that Head; And I appeal to any one who pretends to understand the Matter (even not excepting himself) after they have considered the following Sheets, whether he has said any thing to the Purpose in his late Performances. C. O. might have stoln through this sinful World with a Reputation Unquestion'd, because never enquir'd into, had it not been for Writing; he might

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might have liv'd unthought of and unhear'd
of dy'd, had it not been for the Press: It is
true, he had plum'd himself with Foreign
Feathers; He had made a Bustle and an ado;
Spoke things he did not understand, and pre-
tended to what he did not know; But that
was only in a Corner or among his Translators,
who took things on Trust; or if he mistook
his Man, People were well natur'd, and did
not much incline to *Knight-errantry*; They
thought it wiser to flatter Fools than fight
them, and they pretended no Call to humble
Pretending *Quacks* or dispoil Vain *Jack-daws*:
But when he once dar'd to attack his Superi-
ors, he sees what is come on't; But now his
Hand is in, I'd advise him to scribe on,

He that is down can fall no lower.

He values himself mightily, that the Lan-
guage of his first *Volume* was suspected to be
a *Friend's* of his, whom he takes Occasion
most invidiously to bedawb, with a Load of
false Paint; And how he hugs himself in this
Suspicion, as he calls it! But I am strangely
surprised, he shou'd have shown himself so
little acquainted with Mankind, as to ima-
gin the *Philologist* wou'd let such a Heap of
Fine Words pass under another's Name; He
had too much Vanity, and too little Sincerity
for that; Besides, did he not see that the
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Texture of the Whole betray'd too much of
the *Pedant*, and smell'd too rank of the *Birch*,
not to discover the *Interpreter*, the *Purpu-*
reus late qui splendeat unus & alter, assu-
tur pannus, wou'd have infallibly directed us.
The Seams are too coarse, and the Tacking
of these Glittering Raggs too little artfull
not to have fixt before our Eyes that Man
of *Meer Memory*: It is true, the *Author* and
his *Translator* are so very alike (which is
generally the Foundation of Friendship) that
it might have been suspected, they wou'd have
kepr one anothers Secrets; But I can al-
ways lay an Ods on *Natur's* Side; The *Phi-*
lologist cou'd not bear it, for all their Resem-
blance, in the Vanity of their Tempers, the
Insolence of their Behaviour, and their Ingrat-
itude to their best Friends; Out it wou'd
what Part each club'd toward the Production
of the *Brat*. The *Translators Character* and
Legend is too well known, to be here insist-
ed on.

(*P* th' most sincere Advice he ever gave,
He had a Grudging still to be a knave)

And he is too far below the Dignity both
of *Verse* and *Prose*, to merit any further
Notice: I shall dismiss him with this Ad-
vice *viz.* That he continue to encourage the
Absence of his *Pupils*, that by their *Mulets*
he,

he may have the Heart to purchase a *Faber* (the Stock whereby he drives his Critical Trade) of his own, and be able to drink *Genever* at Home, and not meddle with things without his Sphere and beyond the reach of his Capacity. C. O. has done Abundance of Honour to our Conutry in pawming upon the World his *Translator*, as our Ablest Judge in both the Learn'd Languages: If he be our best *Critick*, and the *Translation* the best Evidence of his Abilities, I shall say no more, but that we are in a very hopeful Way.

In Fine, All I wou'd beg of 'em both, is, that if I must have an Answer to these *Remarks*, they wou'd not be rash, but before they commit themselves to the wide World again, they wou'd consult some Honest Friend, (if any such they have) who at least has Common Sense, understands *Euclide* and has read *Bartholine*, And then they shall have their Humble Servant at Command.

REMARKS

Upon Two Pamphlets, &c.

THE main objections made by C. O. against A. P's. *Dissertations* are those two, 1. That they are no ways useful to the *practice* of *Medicine* 2. That they are stoln from others namely from *Borelli* and *Bellini*.

As to the first, I'd gladly know, who told C. O. that A. P's. only design in writing these *Dissertations*, was to promote the *practice* of *Medicine*: If there be other uses and that very good ones too, of these his *Works*, it can not be said, that he has laid out his pains to no purpose. Wherefore abstracting at present from the advantages to be reap'd thence. to the *practice* of *Medicine*, I will tell him two very good uses of A. P's. *Dissertations*. 1. They are a genuine explication, of some of the noblest and least accounted for *appearances* of *Nature*; and on this score A. P. comes into share in

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the gratitude and regard of all honest and ingenious men, with Mr. Newton, Mr. Huggens, Borelli and Bellini, and many others, who have labour'd to instruct our minds, and explain the wonders of *Nature* and *Art*.

2. These *Dissertations*, with those of the like nature, serve to demonstrat the *Infinite wisdom* of the CONTRIVER of the *Universe*, of which the animal body is the noblest part; That GOD ALMIGHTY has adjusted the whole *Fabrick* by weight and measure; that the same *uniformity* and *simplicity*, shine through all his *works of wonder*; that the same laws of *Mechanism* are observed in the lesser, as in the greater bodies of this *Systeme*: In a word that the same effects follow, and the same *appearances* manifest themselves, as if *Infinite wisdom* had directed their secret springs and given them their first impulses. But perhaps this may be the reason why C. O. despises such things; However his *singular taste* will be no rule to the wiser and better part of mankind. If an *humble servant* of his should undertake to demonstrat, That there are evident footsteps of *Infinite wisdom*, to be trac'd in the ranging figures and motions of the *Celestial bodies*, in general, and of each planet in particular; in the frame and figure of this our *Globe*, and in
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the Texture and Mechanism of Animals, Vegetables and Minerals; in the alternations of Seasons and Tides, and in the propagation of Light and Sound; in the causes of the Variations of Heat and Cold, and in many other particular appearances in this our Systeme of things, borrowing the instances already suggested by A. P. and these other forementioned Authors, (and they will indeed plentifully supply him) he wou'd think himself but hardly dealt by, if the rest of mankind shou'd treat him as C.O. has done A. P.

It is very observable, that such Vermine have occasioned more *Posthumous* works of ingenious men, than all the Diseases in the Bills of Mortality: For few men care for having their labours only for their pains, and losing their quiet to the bargain: And these very considerations are at this very time in hazard of robing us, of one of the noblest and most useful pieces of *Philosophie*, I mean Mr. *Newton's Treatises of Light and Colours*. Now if these uses of *A. P's. Dissertations* be good ones, I would beg leave to ask, what *C. O's* two *Elaborat pieces* are good for; If *A. P's. Dissertations* be useful for other purposes than that of the *practice of Medicine*, and if he wrote them with this design, then *C. O.* has said nothing to the purpose, and

and his *Surprising Sally* into Print, serving neither to instruct nor direct (the common design of all the rest of mankind in writing) after the filing and finishing of his two *Translators* and the rest of the profound assisting *Club*, will be found only to betray the weakest malice and the most consummate ingratitude.

Ay, but says C. O. Dr. P. calls his Book *Dissertationes Medicae*, and it has acquired him a mighty reputation which has hugely encreas'd his gains by practice, to the great detriment of the COMPLAINER. (*Hinc illæ Lachrymæ*!) And seeing C. O. has prov'd that these *Dissertationes* are no ways usefull to the *Practice of Medicine*, he would cunningly have his Reader to infer, that all A. P's *Patients* ought to leave him and employ the COMPLAINER. This is the true state of the affair, whatever face O. may put upon it. We shall now therefore consider how just this bold Charge is; In order to which we ought to reflect,

1. That it would be very rash to conclude, that such discoveries are useless towards such ends, because we had not as yet discovered their uses toward these ends. Neither one man nor a few are sufficient to perfect a Science. When the *Load-Stone* was first found

out, none knew that it would prove of such use in *Navigation*; Nor when the *Cycloid* was first taken notice of, that it would perfect *Clock-Work*: When *Harvey* first show'd the necessity of the *Circulation* of the *Blood*, he did not foresee that it would ascertain the Doctrine of *Blood-letting* and *Secretions*. Neither does C. O. know, but that A. P. (besides what he has already done that way) or some body for him, may apply his Theorems to the weightiest concerns of Practice. Besides, admitting the Doctrine of the *Circulation* of the *Blood*, had not much altered the Practice of *Physick*; Nor *Malpigi's* and *Grew's* Anatomy of Plants, much improv'n Gard'ning; Yet none but C. O. will condemn these as useless Speculations. But

2. I wou'd fain know how it follows, because these *Dissertations* do not improve C. O's practice, (as I really believe they do not, because he does not understand 'em) that therefore they do not improve A. P's. For if he do affirm they do, (and he is not obliged to show how, for that were indeed to let C. O. know as much as himself) I'm sure C. O. cannot disprove it. Me thinks C. O. shou'd have a better opinion of A. P's practice, for all who know them both, cannot be Ignorant, that it is to the imitation
of

of it, C. O. owes that liquor which has inspir'd him to kick against his *Master*.

3. The true state of the debate is, Whether, *Ceteris paribus*, a *Mathematician* who knows the Reason of what he does, and consequently can accomodate his art to all particular emergencies, wou'd not make a better Sailer, than a meer Tar, who works like a Machine, as he is act'd by Powers unknown to him; and who, if he be put out of his Road by any unforeseen accident, knows not what to do: Or whether *Captain Halley's* conduct of a Ship to the *East or West Indies*, were not more to be trusted to, than that of the *Masters* of some little Frigate, who never read a Book but his Sea-mans Almanack. If C. O.'s advice were to be taken, he wou'd give it in favours of the last, for more reasons than one: For you must know, *That worthy and usefully iearned Gentleman*, stole from C. O. (if you'll believe himself) the *Solution* of the *universal dioptrick probleme*, printed in the *Transactions*. I will not say (for manners sake) with his dear Friend, (*i. e.* himself) the elegant Translator of his *devise* in the *Frontis-peice* of the *Refutation*, that he

With Impudence avers damn'd lyes,

But

But this I will say for C. O. that he does not understand the first steps of the *Investigation* of that *probleme*, nor can so much as hint the *Lemmata* necessary to them. I would advise C. O. for the Future, to chuse his company better, and take *Hudibras's* way (both in *Medicine* and *Mathematicks*)

*Who much of either did afford
To those who never had a word.*

However, to show you that he was not *adeo ἀνεμμεντος*, he tells you that a false *Theorie* in *Medicine*, can do no more hurt to the *Practise* thereof, than the false *Hypothesis* of *Ptolomy* or *Tycho*, can wrong *Navigation*. For my part I hate all false things whatsoever; Both false *Theories* and false *Friends*, and all those who plead for them: But I'd very gladly know, who helpt C. O. to this Similitude, for I'm sure he can neither prove the *Ptolomaick* nor *Tychonick* *Systemes* true nor false; Nor that their Truth nor Falsehood, can either promote or hinder the *Emprovement* of *Navigation*. And that this is not *Maliciously* said, I offer my self to defend against him, that the *Tychonick* *Systeme* is true, and that the *Determination* of the true one would promote *Navigation*; pre-

providing he take no assistance but from his own rich Stock (I do not mean of *Impudence* but) of *LEARNING*. However, as to the only thing which he must point to in this *Similitude*, namely whether the *Earth* or the *Sun* moves, (for if he understand the whole *Systeme* of the *Planets*, his assertion is absolutely false. For every one besides himself knows, that a perfect Theory and Exact Tables of the *Moon* would compleat the *Longitude*, the main *desideratum* in *Navigation*) It is no more to the purpose, than if he had said, it matters not to the cure of the diseases of the Head, whether the under Jaw-bone move the upper being fixt, or the upper Jaw-bone move the under being fixt. Neither indeed does it, nor do any such remote *appearances* influence particular ones. But as in *Navigation*, (to keep near his *Similitude*) from the precepts of *Geometers*, a *Tar* may make an *observation*, and go by the help thereof to his tables, to bring out the Numbers for his *Latitude* in general cases; But if a particular emergency which is not included in his Rules, (And every one knows that such dayly occur, nor can precepts reach all particular cases) should happen, he is at his wits end, and can go no farther; Whereas a *Mathematician*, who besides the *Practice*, understands the

the *Theory*, will find *Expedients* for all *Emergencies*, & show his Skill most where the Difficulty is greatest. And this is one principal Difference, as to the Practice of all Kinds, betwixt a meer *Mechanick* and a true *Philosopher*, who can both think and act. Just so C. O. from the long and familiar Conversation A. P. has allow'd him, may have learn'd to practise in common and general Cases, much after the same Manner A. P. does; But when an uncommon Case happens, or a common Distemper is compounded with others; When a new Disease arises, or an old changes some of its principal Symptoms (and we know all these dayly fall out) one Difference (there are a million of others as C. O. numbers) betwixt A. P. and C. O. or (which is the same as shall be afterward shown) betwixt a true Physician and a very Quack, may be evidently discovered. But

4. Has not A. P. in all his *Dissertations* shown, how such and such *Theoremes* he has there demonstrated, serve either to overthrow the bad *Practice* of some, or to confirm the Sound Practice of others; or lastly, to suggest one different from any yet used? Has he not hinted a better *Practice* in the *Gutta serena* & *Suffusio oculi*, than the very common one by *Collyria* and such like stuff from a de-

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monstrated *Theory* of these Diseases? Does not the true Doctrine of *Secretions* which he has advanced, teach us two things of very great Importance in the *Practice of Medicine*, viz. That the Encreasing of one *Secretion* will respectively lessen all the others, and that any *Miasma* may be evacuated by any secretion whatsoever? These two *Theoremes* rightly understood and discreetly apply'd, will form a Sounder Practice, than some Volumes of *Observations*. Do not these, together with another he has taught, viz. that all Obstructions must necessarily happen in the *Nerves* or *Arteries*, tend to shorten the Study of *Medicine*, making that plain sense, which in most Books is nothing but a Heap of hard Words without any distinct Meaning, and to contract Physicians Bills into one half of what they used to be, when the Fashion was to write, rather for the Benefit of the *Apothecary* than the *Patient*. Do they not teach *Physicians* to lay the stress of the cure of most Distempers, on some Evacuation to be promoted, such as *Blood-letting*, *Vomiting*, *Purg- ing*, *Sweating*, *Salivation*, *Perspiration*, *Em- mentation*, *Bathing*, *Blistring* and the other Varieties or Compositions of these Secretions? Does not the knowledg of the manner how *Mercury*, *Steel* and other attenuating or *Anti-*
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Scurbutical Medicines work, and by what Properties they bring about the design'd Effects, teach us in what Diseases and in what circumstances they must be used, and in what Quantities administred, and serve to overthrow the Pretences of *Quacks*, who brag of curing some malignant Distempers by Medicines, which can only palliat, but are not endued with force, sufficient to root out the Malady? Does not the true Knowledge of the manner & Organs of *Respiration*, inform us in the true nature of all the *Epidemick Diseases*, which depend on the several Varieties of the Elasticity and Gravity of the Air, and suggest a sound Practice in all *Pestilential* and *Consumptive* Cases, where the Lungs and Stomach are principally affected? Does not the Knowledge of the true Manner of Digestion, overthrow the Administration of Medicines to correct the ferment of the Stomach, and teach us that the most universal *Preservative* of Health, and *Preventive* of most Diseases, whose Causes are internal, is either by the cleansing the *prima Via* by Vomits and Purges, or by augmenting the Muscular Force of their Fibres by sutable *Liquors* and *Spirits*, or lastly by administring Food, that needs little or no Commination as *Broths*, *Jellies*, *Milks* &c.

Has

Has he not Pag. 115. suggested the Method of the Cure of *Sleepy Distempers* from his own Principles? Has he not shown, that the celebrated Distinction of *Acids* and *Alkali's*, serve neither to explain the nature of Diseases, nor to suggest a true Method of Cure, but that the faculties of Medicines and the Nature of Diseases, are to be brought from other guess Principles. This is a short hint of the *Improvements* of the *Practice of Medicine*, which A. P. has deducte'd from evident principles by sound reasoning: And tho' perhaps it may be thought, that the same Methods have been follow'd in the Practice of Medicine by good Physicians, both before he published his *Dissertations* and since that time, without his Principles; Yet it must be granted me, that what was before only Guessing or (as it is still by some reproach'd) a conjectural Art, is now rendered scientific, and he has confuted beyond any possibility of a Reply, the idle pretences of those who pursue other Methods. There are many other noble Hints for promoting a sound practice in his Works, which those only will discover who read his Book with Candor, and come instructed with the preparatory Sciences; of both which C. O. has no very large Share. But

5. The true Reason, why we do not at present reap all the Advantages in Practice from *Mechanick Theories*, which they are capable of bringing, is, that as yet, even for all the Performances of these three or four learned Men, whose principal Design it was to improve the *Theory of Medicine*, The whole *Animal æconomy* is not perfected, much less are the Faculties of the *Materia medica*, and the manner of their Operation, distinctly and fully discovered and explain'd; And till both these come to pass, and the mutual Dependence of the one upon the other be put in a clear Light, we cannot expect to have a perfect Practice: But notwithstanding of this, He is no less to be esteem'd a Promoter of Medicine, who discovers a New *Theoreme* or *Probleme* in either of these Parts, than he is to be accounted an Improver of the *Mathematicks*, who discovers and demonstrates any *Theoreme* or *Probleme* in any of its several Branches. And

6. Lastly, since every one who practises Medicine, founds his Practice upon some one Theory or other, (unless it be C. O. and the rest of the Honourable Society of Quacks, who will not so much as consider what they do, least they shou'd turn that into Murder, which else wou'd be only Chance-medley

medley or Man-slaughter) The debate then is brought to this Issue, whether one who practises by a certain demonstrable *Theory*, be not to be esteem'd a truer Physician, than one who practises by a false Precarious and Contradictory one; Or (seeing a False Theory is worse and more Prejudicial to Practice than none at all) whether an able Physician, be not to be trusted too rather than a meer Quack. C.O. is of this last Opinion, and may he Eternally persist in it: which is all the harm I wish Him.

But oh, says C. O. there are a Million of other things more necessary to be known, than such an accurate Knowledge of Animal œconomy. But pray good C. O. where has A. P. or any of his little Pedants Insinuated, that they despis'd or disapprov'd of the Study of these Million of other things; Or (since you will most valiantly oppose your self only to A. P.) which of these Million of other things, dare you pretend to know better than A. P. I'll engage, distinctly to enumerate a million of things which A. P. knows, of which you are not only Ignorant, but incapable, when you name one thing which you know and A. P. does not: Wherefore if A P. knows the million of other things infinitely better than you, and understands accurately

curatly the Animal œconomy to the Bargain, which Knowledge (to speak in the Language of the Schools) you are not only depriv'd of, but ev'n deny'd by Nature, I think none will be at a Loss where to give the Preference.

To a Reader not acquainted with C. O's Temper and way, it wou'd seem as if he took up Arms in Defence of his Injur'd Brethren and Sisters, the *Quacks*, *Mountebanks*, *Gardners* and *Midwives*; But whoever entertains this Opinion of him, hugely injures him; for he'll fight for nothing but his OWN DEAR SELF. Besides, He has a profoundly blind respect for the *Mathematicks* and *Mechanical Philosophie*, he most implicitly believes in 'em, and is ally'd to 'em more ways than one; And his only Motive for writting thus, was to be reveng'd on A. P. for overtopping him so far in Reputation, but especially in Practice. It is true, the *Mathematicks* (as much their Friend as he is) have received some Harm in the *Scuffle*; But that was for their being too hard for him, and for their enabling a certain *Little Pedant who talks of a Curve, a Quadrature and a Series*, to rein and spurr him as he pleases, and to make him believe Black's white, and White's black, just as he has a Mind to it.

Any

Any one who considers C.O's many Contradictions with himself, sometimes railing at, other times commending (but a little awkwardly) this kind of Learning, may evidently see, that C. O. wou'd willingly part with all his *Million of other things*, to understand but the Millionth part of that Kind of Learning, which A. P. and his little Pedants know, Which since he never can (like *Montaign* with Nobility) *he takes his Revenge on it, by railing heartily at it.* The Author of *Apollo Mathematicus* managed the like Cause much more *Cavalierly*, He told plainly that the applying *Mathematicks* to *Physick* was *Conjuring, Astrology, Witchcraft, Raising the Devil* and all that; He shows how ridiculous it is to pretend to cure diseases by *Squares* and *Triangles*; He greatly despises and heartily hates every thing that bears the resemblance of a *Scheme* or a *Figure*; But for a *Vir non adeo ἀγνοῦντων*, to rail at such kind of Learning, *Even when it never intended to do him any harm*, is so little and mean, that I cannot sufficiently admire, how he *Physick'd* himself into it. I can tell him one thing, that the *Mathematicks* take it very ill at his Hands, to have been thus abus'd by their old Friend and manifold *Ally*: And for the Terror of others who may in Time to come offend

send in like Manner have decreed, that C. O. and his *Latin* and *English Translators* shall never get over *Pons Asinorum* in their days.

Thus I think I have sufficiently answered C. O.'s first Objection, and if the second prove no fitter *Engine* to Buoy his sinking Reputation and declining Practice, I'm afraid that in a Short Time he be reduc'd to the condition of being only admir'd by himself and his *Translators*, and employ'd by the *Ladies* of the *Cavagate*. Let us now therefore consider his second Objection; In Order to which it will not be amiss to premise this General Answer to all his *Cavills* of this kind viz. that allowing A. P. had taken any Hints from *Borelli* or *Bellini*, and had improv'd them to good Purpose as he has done, and had set the whole Affair in a clearer *Light*, is he not to be commended for so doing? Or wou'd any thing except C. O. have blam'd him? All who have read *Borelli* and *Bellini's* Works carefully, can't but see that the *Latter* has borrow'd more from the *Former*, than A. P. has done from *either*: And sure I am, none ever twitted that *Great Man* with this, except they have been of C. O.'s *Kidney*. I cou'd adduce many Instances in men of the greatest and fairest Characters among the *Learned*, who might have taken Hints from

one another; But no Man of Ingenuity ever condemn'd them for so doing, if they either extended the borrow'd Notion, or apply'd it to Purposes unthought of by him who first advanc'd it, or lastly gave it a Finer Turn and set it in a Better Light: And if A. P. has taken any thing from these two *Fathers* of the *Mechanical Medicine*, all honest men who understand their several Performances, will allow that it has lost nothing in his Hands. They oft deserve better of Mankind, who unite the scattered Parts of a Science, & make the whole Affair of a Piece, & show the Connexion of one Part upon another, than those who were the Inventors of the several Branches. But besides, Is it not very ordinary to see those who reason justly from different *Methods*, fall into the same Conclusions, without borrowing the least Hint from one another or knowing of one anothers Designs? This happens dayly in those Matters to which *Mathematicks* can be apply'd: And tho' the first *Discoverer* must bereckon'd the *Publick Inventer*, yet the second may justly pretend to a Share in the *Glory*, if he is known to have brought it out of his own *Fond*. I heartily wish there were many who stole at A. P's. Rate, I'm sure *Medicine* in a Short Time wou'd make another

Appearance than it now does. But as to the Particulars objected,

I. The plain meaning of that Place in A. P's. *Dissertation* viz. *Posthac facilius poterimus judicare.* &c. whose mystery C. O. cou'd not unfold, is briefly this. Says A. P. Now that we know *Secretions* to be perform'd after so plain and intelligible a Manner, the Half of our Business is done; for there remains nothing to be enquir'd into, but to find *Medicines*, not of a numerous and complicated Train of Qualities, as was formerly believ'd, but of a few simple ones, which may answer to these Motions whereby the respective *Secretions* are perform'd. Thus he not only shorrens the study of Medicine, but points at the true *Enquires*: And that this is his Meaning, is evident from what follows viz. *Neq; enim nihil erit artis longæ cultori ingenuo ad tot perpetuos compilatores damnari.* So that C. O's. Quaint *Conundrum* about *Diureticks* and *Diaphoreticks* is intirely his own, and much good may it do him.

II. There are so many *Ingenious* and even new *Theorems* in this first *Dissertation* of A. P's. that none but C. O. wou'd pretend to understand and despise 'em at the same Time: He has determin'd the True Figure of the

Secretory Canals from diverse very important Considerations, and demonstrated the *Continuity* of the *Arteries* with the *Veins*, which are the two Fundamental *Theorems* upon which all the sound Reasoning about *Animal æconomy* is builded. But says C. O. *Bellini* hinted this *Continuity* before him; And for Proof of this he adduces a part of the 70 Page of his book *De Urinis & Pulsibus*. There cannot be brought a plainer Evidence of C. O's. profound Ignorance in these Matters, for it is clear not only from that place but from the whole Discourse, that *Bellini* thought only there cou'd be no *Parenchymatous* Separation betwixt the *Evanescent Arteries* and *Veins*, as was commonly believ'd, and that therefore they behoov'd to be *Contiguous* or inserted by *Anastomoses* into one another. But this is far from being A. P's. Doctrine on this Head, for he proves that they are not only *Contiguous* but *Continuous* to one another, and that the very same *Artery returning* becomes the *Vein*; And indeed without this the Matter had been intirely *Lame*, if you once suppose the *Arteries* and *Veins* different, tho not disjoyn'd, you make an End of the Circulation: It must be the *Continuity* of the same *Elastick Fibres* that must propagate the Impulse communicated

to the Blood. But these were things too hard for C. O. to conceive. Besides all these, allowing *Bellini* had given the Hint of the thing, C. O. dares not say he has prov'd it, and no body was oblig'd to believe it upon his bare Assertion. Nothing can or ought to be admitted into the Number of known Truths till it be publickly demonstrated; and it is a fault in the Improvers of this or any other Science, to advance any new thing without it's *Demonstration*; and he who supplies this does sometimes better Service to the Publick, than the first Inventer.

III. C. O. In his Remarks upon A. P's Second *Dissertation*, alledges he has stolen the Materials thereof from *Borelli*. If C. O. had nam'd any other Author whatsoever at a Venture, he cou'd not have been farther mistaken than in quoting *Borelli*, for A. P's Instructor on this Head: *Borelli's* Opinion (as will be evident to any one who reads more of his Works than their *Index*) about the Manner and use of Respiration is plainly thus. He thought that in the struggle of Birth, the *Fetus* wou'd necessarily dilate the Cavity of the Breast, whereby the Air wou'd rush in to fill the *Vesicles* of the *Lungs*, which being compressed by the falling down of the Sides of the *Abdomen*, wou'd force the Blood
through

through the Lungs into the left *Ventricle* of the Heart; In doing which some of the *Oscillatory* Air wou'd be thrust through the Sides of the *Vesicles* of the Lungs, and the Sides of the *Arteries* into the Blood: This last was *Borelli's* peculiar and darling Opinion, the rest being common to every one who spoke of these things, since the Structure of the Lungs and the Properties of the Air were discovered. Now C. O. out of the Depth of *Penetration*, did imagine that this was A. P's Opinion, but such things will happen one who understands neither of their Opinions: For 1. *Borelli* thought the Motion of the Blood through the Lungs, was, when they were Flaccid and empty of Air, as appears from the Place quoted by C. O. *Prop. 117. Postea coincidentibus* &c. Which is both false and directly contrary to A. P's Opinion on this head. 2. *Borelli* knew nothing of the true Figure of the *Vesicles* of the Lungs when flaccid, nor when inflated, which A. P. has hinted, and which may be *Geometrically* determin'd after the same manner and from the same Principles *John Bernoulli* determin'd the Figure of the inflated *Vesicles* of the *Muscular Fibres*: And the knowledge of these Figures do mightily conduce to form a right Notion and explain the True Nature of

of this *Animal Function*. 3. *Borelli* knew nothing of the True Situation of these *Vesicles* in respect of the *Pulmonary Trunk* viz. That they were at *Oblique Angles* with the Inferior, and consequently at *obtuse Angles* with the Superior part thereof when flaccid, but that upon an Inflation, the *oblique Angles* were made *less oblique*, and consequently the *obtuse* ones *less obtuse*; And that all these must happen from the *Elasticity* and uniform *Pressure* of the inflating Air: Now the determination of these two viz. The Figures and Situation of these *Vesicles* when flaccid & when inflated are the Hinges upon which the *Mechanicall* Explication of this Operation can move, without which (as it happens in all the other different Accounts of this Matter) all is Contradiction and Nonsense And these are the two Heads which mainly distinguish *A. P.'s* Doctrine in this affair, not only from *Borelli's* but from that of all others. 4. Lastly, *Borelli* was clearly mistaken in the use of this Function, imagining an *oscillatory* Fluid was thereby thrown into the Blood, which he thought the principle of Life and Motion; But this Doctrine is not only false, but were it true, it wou'd not serve his purpose. And now since I have thus clearly and distinctly laid the whole

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matter before C. O. I wou'd desire him to assign the Assertion I have alledged which he thinks false---Or if he wou'd take a little good Advice from *such a Fellow as I am*, I'd counsel him to let the Matter intirely alone; For notwithstanding the Performances of these Learned Men this Way, there is something in the *Mechanical* Explication of Respiration which he can neither find out before it be explain'd, nor understand it when demonstrated.

IV. C. O. Goes on next to A. P's *Dissertation* about *Digestion*, and out of his Abundant Commiseration to his Fellow Reader, he will needs give an Abstract of A. P's, Discourse; In Order to which he transcribes *Borelli's* Opinion about *Nutrition*, and this he calls the Sum of A. P's. Doctrine about *Digestion*, and appeals to his Reader, yea to A. P. himself with as great an assurance, as if he were asserting an *Eternal Truth*.

However Good *Charles Oliphant* this will pass upon no Body but your Learned *Interpreters*; For notwithstanding your Confident Appeal, I maintain that A. P's. Doctrine both about *Digestion* and *Nutrition* is different from *Borelli's*, and over and above that, *Borelli's* Opinions in these Matters are absolutely false. As to the first it is evident that *Borelli* thought *Digestion* was mainly perform'd

Form'd by the Assistance of some dissolving
Menstruum or *Ferment* Prop 199. 2d. Part.
Postquam cibi contriti & macerati fuerunt
succo fermentitio stomachi &c. Prop. 192.
 Speaking of the Manner of the Digestion of
 Birds, *Excipiunt ambientem arenam, quam*
succo fermentitio quo abundant dissolvere pos-
sunt, ut aquae corrosivae durissimos silices & me-
talla. Prop. 189. *Hec animalia ferment o quo-*
dam validissimo carnes & ossa consumunt,
non secus ac aquae corrosivae metalla corrodunt
ac dissolvunt. It is true, from the Firmness,
 Weight and *Muscular* Fibres of the *Gizzards*
 of Birds resembling that of the *Heart*, he
 thought they might act as other *Muscles*;
 But it is evident from the Places cited, and
 many others I cou'd adduce, that he thought
 the great Business of *Digestion* was performed
 by a *Ferment*. Now this is so far from being
 A. P's. Doctrine, that he has spent one
 Half of that Discourse to confute it, and has
 shown that *Digestion* is perform'd after a
 Manner suitable to the rest of the *Animal*
Functions. And as to the Manner of *Nu-*
trition which *Borelli* assigns in the Place cited
 by C. O. it is absolutely false, depending (as
 himself says) upon the *Necessitas configu-*
rationis cribrosae, and the Exploded Notion
 of *Similar Parts*: This *configuratio cribrosa*

A. P. has confuted in several of his Discourses, and the Notion of *Similar Parts* is absolutely contradictory to the true Nature of *Fluids*, and the Necessity of *Conical* or *Cylindrical Parts*.

Is it not a little surprising to find one at this Time a Day, who has the Vanity to pretend to understand the *Animal economy* and the discoveries made therein in this last Age, talking at this Rate? and Imagining this to be a true Explication of *Nutrition*? Or can there be a more Evident Instance that C.O. understands only a Few Scrapes which he has pick'd up here and there, & which he can not tack together to make 'em look of a Piece? I do not expect Thanks from him (for he has publicly declar'd the contrar) for the Pains I am about to take to inform him: However I'll take this Occasion to explain the true Manner of *Nutrition* founded on the *Circulation* of the Blood and the Nature of *Secreion*, and conform to A. P's Doctrine on this Head.

Seing then it is certain that the *Arteries* are *continuous* to the *Veins*, and seing *Secre- tion* is perform'd by the Composition of two Motions viz. a *direct* and a *transverse* one, and that the Difference of the Secern'd Fluids depends upon the *Diameters* of the *Secretory Canals*

Canals, and the *Velocity* of the Fluid with which it arrives at their Orifices; And lastly, seing *Nutrition* is but the *Secretion* of some Portion of the *Arterial* Fluid, to repair the *Expenses* of *Living*; It follows, that not the *Similarity* of Parts but the Orifices of the *Secretories* of the Nourishing Fluid; and the respective *Velocity* with which it arrives at these Orifices, is that which determines this Fluid to such and such Places, and that it is keep'd there by the Force of the succeeding Fluid: Moreover, seing even the Canals themselves do encrease in Bulk, may decay and be impair'd, every assignable Part of the Canals must be the Termination of some *Secretory* Conduit, carrying a Fluid fit to encrease their Dimensions or repair their Losses; And these *Secretory* Canals again must have others to encrease their Bulk or repair their Losses, and so on in *Infini- tum*.

COROLLARY.

FROM this Doctrine and several other Topicks I can adduce (as particularly from the whole Business of Sensation) it follows that ev'ry natural *Machine* i. e. all *Animals* and *Vegetables* whatsoever

(which by the by is the *Specifick* Difference betwixt the Works of *Nature* and *Art*) consist of *Organs* in Number actually *infinite*, and consequently require *infinite* Wisdom and Power in their Contriver and Maker; And therefore, if there be *Animals* and *Vegetables* which have not produc'd themselves, there must of Necessity be a G O D. This is one Argument for the Existence of the *Deity*, which C. O. will not be able easily to disprove: Perhaps the Doctrine may look a little *odd and new* to him, but this is not the only Way I cou'd surprise him, if I had Leisure and Inclination to instruct him.

C. O. is very hard here upon A. P. for not allowing Liquids any place in the solution of this *Probleme* about the manner of *Digestion*; This is not unlike the rest of C. O's Objections. A. P. was to show the internal Forces whereby the Food was reduced to the Fittest Form for recruiting the Blood, and C. O. will very wisely have him take in External Assistents into the Consideration; In my Humble Opinion this had been begging the Question, & he might have as well taken in the *Boiling* and *Bakeing*, the *Roasting* and *Frying* and the other Preparations of the *Kitchen*, to assist him in the *Solution* of this *Probleme*, as that of *Drinking*: His Business was

was only to examin, if the Force of the *Stomach* and the other concurring *Muscles* was sufficient to reduce a Solid of a Moderate Cohesion of Parts, unto a Mass whose Cohesion was dissolved and destroy'd, and to show that *Menstrua* wou'd dissolve the *Stomach* it self at the same Time it digested the Food; which he has very distinctly and accurately done: This was solving the *Probleme universally* and in its worst Case imaginable; For if it was once demonstrated that the *Stomach* cou'd dissolve Food without the Concurrence of Liquors, even C. O. cou'd infer it cou'd do it more easily with them. But C. O. cou'd not apprehend this Manner of solving *Problems*, which shows how far he is *non ἀνεκπεραιότερος*, For all who understand the first *Elements* of *Geometry* know, that the only Way of solving a *Probleme handsomely* and *universally*, is taking it in its utmost Extension, and in its hardest possible Case, and requiring no more *Data* towards it's Solution than what is absolutely necessary, or in A. P.'s Words in the preceeding *Dissertation*; *Nunquam tentanda est Problematis solutio* &c. for which C. O. laughs at him very heartily, and which nevertheless is neither more nor less than what Mr. Newton had said before him, *Princip. Phil. Nat. Math:*

Math. Pag. 402. Causas rerum naturalium non plures admitti, quam quae verae sunt & earum Phenomenis explicandis sufficiunt.
 Perhaps if C. O. had known this, he wou'd have been a little more civil to this Expression of A. P's out of his profound Respect to the *Mathematicks*: But seriously speaking, I believe he meant nothing by this whole Paragraph but a Piece of harmless *Diversion*, and to bring in his Qaint saying of *Qua vesana bibendi cupido!*

V. The first Objection against A. P's *Solutio Problematis de Inventoribus* mov'd by C. O. being sufficiently answered by Dr. F. and not insisted on by him in his *Refutation*, for that and other Reasons I shall pass it over. But he tells us now, he can make many more, which A. P's Friends wou'd have difficulty to answer. Is not this a Singular piece of Civility in C. O? He! tender Hearted Gentleman! Out of Meer Mercy and Compassion will not expose A. P. So good natur'd, Civil and Modest a Creature I never saw before. Oh, but *Well condition'd Charles Oliphant* do not restrain your self so much, it may do you harm; Even wreck your *Spleen* a little, especially when A. P. and his Friends dare you to do it.

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These who are not acquainted with *A. P.* *Dissertations*, by these Malicious Insinuations of C. O.'s. might suspect there were some *Perniciosa Doctrines* conceal'd in them which C. O. threaten'd to display to the World; But to show you how Impudent a thing this *Refuter* is, I challenge him to make good these Brags and Insinuations. In the Name of Nonsense fall on (C. O.) and spare not; Let us have a tryall of your skill here; Spew out all your Venome, A. P. and his Friends defy you. And if they have any Difficulty in answering you on this Head, you shall gain the whole Cause in debate. I'm sure three of the *Greatest Men* of the CHURCH of ENGLAND, (I mean Bp. *Wilkins*, Dr. *Hooper* Dean of *Canterbury*, and the most ingenious Mr. *John Craig*) have all said the same things more Explicitly and distinctly; And if these three be not a Match for YOU & your LATINE & ENGLISH INTERPRETERS, I despair of ever seeing you march'd.

VI. Next, C. O. is hugely displeased with A. P. because he has brought a *Demonstration* for the *Existence* of a Deity, from the Impossibility of the *Mechanical* Production of *Animals*, and alledges the proof is not Good, because he Imagins A. P. infers from it only, that the *Origine* of the *Fetus* is derived from
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the *Male* and not from the *Female*: I have given Several Instances already, how little A. O. is able to distinguish betwixt things, The Reason of which is, that he is not capable of entering into the Inward Nature of the Matters he speaks about: Like a true *Quack* he keeps you at a great distance from the point, defends himself with long *Weapons*, and endeavours to secure from Blundering, by General Terms. He thought it a little inconvenient to go directly to Work, and fall a combating Arguments for the *Existence* of a *Deity*, and therefore he takes a consequence to A. P's *Demonstration*, which he thinks False, and wou'd have his Reader conclude the *Proposition* False; upon the account of the Imaginary Falsehood of the *Corollary*. But I tell you *Charles Oliphant*, and look to't; If an *Animal* can not be produc'd *Mechanically*, there must be a *Supreme Being* who did some Time or other creat the same, and that whither the *Origine* of the *Fetus* be deriv'd from the *Male* or from the *Female*. It is true, from the Consideration that the Works of *Creation* are now ceas'd, and that an *Animal* con'd be produc'd by no Laws of *Mechanism*, and some other *Appearances* of *Nature* that can no other ways be accounted for, A. P. might infer that the

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Origin of the *Faiths* proceeded rather from the *Male* than the *Female*; But this Inference does noways influence the *Demonstration* of the *Existence* of a *Deity* from the *Immechanical* Production of *Animals*: For let that be how it will, Yet this is true and necessarily follows from his Reasoning. Ay, but says C. O. very learn'dly, the Seeds of *Plants* are certainly little *Plants*, and they can be produc'd *Mechanically* no more, than the most perfect *Animal*; And therefore the *Herb-Woman* and her *Salladine* are of the same original. I grant it, and where is the Hazard? Every Individual *Animal* (as I have aforesaid) even the least *Insect* and *Plant* requires to its Production infinite Power and Wisdom, and the most perfect Creature can require no more.

I cou'd here show the Impossibility of the *Mechanical* Production of *Animals*, from several other Topicks, besides that adduc'd by A. P. As likeways (from the nature of material Organs, the *Latos* of *Motion* and the Structure of living Creatures) that there must be something in the World above the Power of *Matter*; But these I refer to a more glorious Work, than that of exposing C. O's Frailties: No honest Man wou'd lay out his Pains in confusing any of the several

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ways

ways of *Demonstrating* the Being of a *GOD*;
The more they are, the better; for some are
to be wrought upon one way, others ano-
ther.

But says C. O. *Malbranch* and *Bellini* have
both of 'em *Demonstrated* the *Immechanical*
Production of *Animals*. It is very hard C.
O. shou'd take the Liberty of saying what
he pleases without any *Avoucher*. *Malbranch*
has barely mention'd the thing, but you can
no more find a *Demonstration* thereof in his
Works, than in C. O's elaborate *Pamphlets*.
And as for *Bellini*, if we may gather his O-
pinion from his writings, it wou'd seem he
were of another Mind; for he endeavours to
account for the *Motion of the Heart*, the
Circulation of the *Blood*, and the Forma-
tion of the Principal parts of an *Animal*,
from the *Data* of a *dissolving Fluid*, and an
Elastick Canal; which (notwithstanding all
the ingenious things he has said on that Head)
will no more form a living Creature, than a
Bag full of melting Butter will produce an
Emperour. I come now to consider what he
has to say against A. P's asserting the *Ori-*
gin of the *Fetus* to be deriv'd from the Male.
Says C. O. the Seed of *Plant-animals* is
not deriv'd from a Male, and therefore this
Assertion of A. P's is false. There is for
you

you now. The seed of *Plant-animals* is not deriv'd from a Male, and Therefore &c. I shou'd not have taken notice of such an Objection as this, but that he repeats it over again in the *Refutation*: Did ever any one seriously assert, that there were Distinctions of *Sexes* in Plants? Does not ev'ry body know, if an external Injury, a Wound, an improper Soil or Climate, a chilling constant Blast, a rotting Fall of Rain, Old Age or some such cause does not occasion Barrenness, that ev'ry Plant duly cultivated will bear Seed? If I shou'd say that ev'ry Plant is a Male, and the Earth or at least a convenient Bed therein, is the Mother or Female, I shou'd be guilty of a less *Solecism*, than C. O. But all such Language is meer *Metaphor*, and nothing is to be concluded thence. But, say C. O. Nature works uniformly and after the same *constant Tenor*. And who denys it? This *Uniformity* is not in the least infring'd by our *Position*, no more than it is in that some Animals are *Oviparous* others *Viviparous*; the true universal Uniformity consisting neither in that the Origin of the *Fetus* is in the Male, nor that it is in the Female, But that all Animals of whatsoever Kind are deriv'd from a preexistent *Animalcul* of the same *Species*.

C. O. saw very well that if *Leuwenhoeck's* Testimony were admitted, of his having constantly observed an Infinity of *Animalculs* in the Male-seed of all the Creatures he had occasion to examin, this would be an *Ocular Demonstration* of A. P's Inference; He therefore absolutely denys the Matter of fact, and resolves the whole into a meer *Deceptio visus*; It being no other (says he) *Quam particularum liquoris seminatus in liquorem tenuius fatiscentis, lucis & distractio*. I suppose he means (if one can suppose him capable of a meaning) that the Seed of all Animals being a frothy Substance, when it is expos'd to the Air, the imprisoned *Aura elastica* requiring more Room, breaks its Slender Prison and evaporats, by which the true Liquor runs into its proper Substance, as Yest turns into Ale; and that this running of the rarified Liquid presents to the Observer the Appearance of moving *Animalculs*: But C. O. knows not that the most Tenacious Frothy Liquours when expos'd to the Air, will dissolve into their proper Substance in a few Hours; after which there can be no Motion in their Parts but a common one (all *Intestine Motion* commonly ascrib'd to the Parts of Fluids being contradictory to their Natures) and that

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that *Lewvenhoeck* had observ'd these *Animalculs* moving and living in Seed which had been preserv'd 8 Days, after which no such Appearance did present it self, as himself informs us Pag. 144. of his first Vol. of Letters. Besides, Is it not a tolerable Degree of Assurance in an Obscure Person, who perhaps never saw a Good *Microscope* in his Life, who neither understands their Use, their Structure nor the way of Managing 'em, to contradict the Senses of a Number of men of undoubted Probity and singular Capacity, who have all asserted the same thing, have represented their *Figures* and describ'd their Motions. Not only has *Lewvenhoeck* said it again and again in his Two Volumes of Letters, But he has shown these *Animalculs* to several of his Friends, and convinc'd those who absolutely disbeliev'd the Matter, and has obtain'd the Approbation of some of the nicest Judgement and severest Honesty, and particularly of some of the Members of the *Royal Society* at London. *Hartsoecker* likewise had told the same thing 20 years ago, in the *Journal des Scavans* of 1678. and has since enlarg'd the Matter in his *Essai de Dioptrique*, pag. 227. And indeed he was the first who hit upon the Observation, and communicated it to *Malbranch* some Time ago.

terwards. Besides these, if one will examine the *Philosophical Transactions*; *Memoirs de l'Academie Royal*, the *Acta Lipsia*, & *Journal des Sçavans* he will find Multitudes confirming it: And I cou'd get C. O. the Testimony of Half a Dozen of Gentlemen of Unquestioned Veracity, who have beheld and seen these *Animalculs* with their own Eyes. It is a great Misfortune to be engag'd, with one incapable of Shame, who will deny a Matter of Fact, or *Proposition of Euclide*, if they make against him, with the same Indifference others will a Contradiction. It is impossible to bind C. O. with any thing but Cords. His next Difficulty is how these *Animalculs* can get to the *Ovary*. But 1. I wou'd gladly know who told him that they must get thither; *Lewenhoeck*, who first broach'd this *Heresy*, was of Opinion that the *Ovary* of the Female, as such, contributed as little towards the Generation of the *Fetus*, as the Breasts and Nipples of the Male did towards their Nutrition. And 2. I shou'd think that a Living and Moving Animal, which cou'd turn and wind a thousand different Ways, cou'd as readily get thither, as D. O's Fecundating *Aura*, which is determin'd One Way. But 3. the true Answer seems to ly in the Infinit Number of these
Ani-

Animalculis; There must be some one Place of difficult Access, where one or more of these little Creatures (according to the Nature of the Parents) being lodg'd, may be accommodated with the Necessaries of *Nutrition*: So that that Case runs thus, If from a certain Point there passed ten Thousand Different Roads, one only of which led to a Certain Place of *Accommodation*; and if from this Point, there parted ten Thousand Different Travellers, evry one pursuing a Different Road; The desired Place wou'd as infallibly be found out among 'em All, as if there were but only one Patent Road and one single Traveller. Just so, the Number of these Little Creatures seem's design'd by the Wisdom of *Almighty GOD*, to answer the Multiplicity of their Possible *Deviations*. Next, C. O. alledges *Malpighi* had observed the *Rudiments* of an *Animal* in a Wind-egg. But all I can find in his whole Works, which can any ways favour him, is in these Words; In the second Page of his Observations *De formatione pulli*, says he, *Placebat etiam subventanea ova lustrando cicatriculam intueri, quæ ut plurimum minima erat, & licet variam sortiretur circumscriptiõnem, frequentius tamen delineatam A.* (where he has a confused Scheme, which one can make nothing of)

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of) *præ se ferebat figuram, non longo à rest-
ro globosum candidumque corpus, quasi moto
locabatur quod laceratum nullum prædiare
corpus exhibeat a se diversum &c.* Thus you
see how diffidently *Malpighi* speaks of the
Matter. And it is observable, That in his
repeated and amended Observations (which
are the only Ones we ought to trust to) he
never so much as mentions the Matter. If C.
O. can adduce any Quotation more pertinent
to his Purpose, I desire him to point the
Page in his Next ; for men are not obliged to
read over *Volumes* to discover his Meaning :
But I am not much affraid he can bring out
of him or any other credible Author, any
thing positively confirming his Opinion.
Nor indeed can the Matter bear it without a
great deal of Caution : For it is almost Im-
possible to be certain, if the Female, whose
egg you examin, has not been (some short
time before) troden by the Male : Besides
that it is hard to manage the *Cicatrixula* so
as to be sure not to be deceiv'd. Before C.
O. medles any further with *Malpighi*, I'd
advise him to read his *posthumus* Works,
where he will find his own Character in him,
who wrote a Letter against *Malpighi*, intituled
De recentiorum Medicorum studiis, to
much the same Good Purpose he has scribed
against A. P.

If

If *Harvey* did not discover any Remains of the Male after Copulation, in those Animals he examin'd; others have, particularly *Lewenboeck*, as may be seen in his Letters, and in the *Transactions*; Where he tells us not only of his having discovered these *Animalcules* in the Uterus and in the *Tuba Fallopiana*, but describes their first Degree of Transformation. As for C. O's *καινοτημανια*, it is much the same with his *difficiliora* *τα σκληρα*, (*Tarrugo's* Old Way of Taxologizing) to inform those whom he and his Translator have not Occasion to tell, by Word of Mouth, that they presume to read Greek, of which there are here so many shrewd Proofs. Having thus answered all C. O's Objections against A. P's Opinion, I come now to adduce Two or Three Positive Arguments that seem to conclude, that this must needs be the Manner of Generation. 1. Supposing there have been discovered *Animalcules* in the Male-Seed, I wou'd ask C. O. what he thinks to be their Use; Why should Nature have furnish'd it with different Animals, and not rather with those design'd to be the Origin of the *Fetus*, since the Latter was as easily to be done as the Former? This looks a little suspiciously, as if Nature did not bring about its Effects after the most

plain and simple Manner: If there have been *Animalcules* discover'd (as most certainly there have) in all the *Male-Seeds* hitherto examin'd, then as certainly they have been design'd for the Production of the *Species*; No other possible Use of 'em being to be assigned. 2. It is utterly impossible to account for *Monstruous* Births, Why some are double, being joyn'd by the Backs or Bellies, others are deficient or abundant in some *Organs*, without this supposition. 3. Is it not very ridiculous to think that the Female, which is the inferior & weaker Sex, shou'd contribute the chief, nay almost the only Part to the Production of the *Species*, and the Male come in only as a *Hatcher*: This is not like the doings of Nature, who always proportions her Effects to the Powers of the Agents. 4. Lastly, Upon this Supposition, the *Uniformity* and *Harmony* of the Works of *Creation* is maintain'd, and the Dignity of the Male Sex preserv'd; And one might as well say the Female might ingender without the Concurrence of the Male, as that the Origin of the *Fœtus* is lodg'd in her. The whole Mystery of *Generation* may be briefly summ'd up in these particulars.

I. That all Animals of what kind soever, were originaly and actually created at once by

by the Hand of *Almighty* GOD; It being impossible to account for their Production from any Laws of *Mechanism*.

2. That every *Individual Animal* has, in *minimis*, actually included in its Loins, all those who shall descend of it; And ev'ry one of these again, have all their offspring actually lodg'd in their Loins, and so on in *infinitum*; Ev'ry *Animal* whether generated or not, comprehended in its Loins, all that shall ever descend of it.

3. That not only the Organs and Solid Parts of all these *Animals* were distinctly form'd by the Hand of *Almighty* God at the Creation, But that at all Times since, their Fluids have mov'd, and their Blood, or that which is *Analogous* thereunto, has circulated; Tho' both these be with some little Difference from what they are in a perfect *Animal*; In a word, the last of the Race of *Adam* that shall be, was actually included in his Loins, when *Adam* was created, had his solid parts there distinctly form'd, and his *Fluids* constantly moving, and has been ever since the *Creation* dayly augmenting and growing in Maturity. And there will be no difficulty for him to conceive this, who understands that both above and below any given Quantity, there may be assign'd another *similar* Quantity

tity in any given *Proportion*, and consequently that there may be conceiv'd an *Infinite Number* of *similar Animalculs* descending or lessening from any giv'n Animal, how small so ever; And so all these Infinite Numbers of *Animalculs* might be lodg'd in the Bigness of a Pin's Head. As likewise that all these *Animalculs* Fluids may actually move, tho' perhaps only with a *Velocity* proportional to their several Bulks. This needs no further Explication.

4. That some of the Solid Parts of these *Animalculs* are as it were folded and wrap'd up in *Plaits*, and these Foldings are wrap'd together by surrounding Membranes, which in process of Time are rent and torn, by the encreas'd Force of the Fluid and Augmentation of the Solid Parts; As is commonly observ'd in the Transformation of all Insects: And that the *Nervous Fibres* are capable only of a determin'd Degree of Tension, without losing their *Elastick* Power of bursting; which Degree of *Tension* answers commonly to the Utual Dimensions and bulk of the *Species* of the Animal. And this *Proposition* rightly understood, will account for the determin'd Stature which all *Animals* and *Vegetables* of the same *Species* commonly reach; as likewise the Necessity of Natural Death

Death and Declining Age, together with some other uncommon Appearances.

5. That these *Animaculs* are all included in the Male, till the act of *Copulation*; as being the Nobler Sex, whose greater Warmth, brisker Motion of Blood & closer Texture of Organs, seems more fitted for preserving 'em.

6. That the Female supplies only a convenient Habitation, a Fatter Soil and a Fitter *Pasturage*, for their more sudden Growth, and for hastening 'em to their determin'd Dimensions. That they encrease so slowly before *Copulation* and so quickly after, will be no Wonder to him, who considers the slow Motion of their Blood, and their small Bulk then; and that the Differences of *Cubical Numbers* (according to which the encrease of the Bulk of Animals is) have a much less *Ratio* one to another, when their *Roots* are small, than they have when the *Roots* are considerably greater.

7. That this convenient *Habitation* in the Female (the *Animacul* having suffered perhaps several Transformations e're it get thither, such perchance as have been observ'd in the Generation of *Insects*) is most probably, where the Extremities of the *Canals* of the *Placenta Uterina*, may agglutinate with the Mouths of the *Secretories* of some
pecu-

peculiar Glands in the *Uterus*; so that thereby some convenient *Fluid* may be immitted with some force into the *Canals* of the *Fetus*. This the Heat of the Sun supplys in Plants and some *Oviparous Animals*, dissolving a glutinous Substance and imparting a Motion to its *Fluid*, whereby it is forced with some velocity into the Orifices of the Root or Navel-string Vessels.

8. That by this conveyance of the Females Fluids into the Canals of the *Fetus*, its Solid parts are encreas'd, and the Motion of its Fluids by the Manner of Nutrition I formerly explain'd, till it grow of such Dimensions, as not to be contain'd in the *Uterus* any longer, and till the Force and Power of its *Struglings*, be too great for the Resistance of the Involving *Membrane*, whereof being disentangled, it makes its Way, thro' the (thereby) patent Orifice of the *Uterus* & then by known Methods it is thrust out.

This is at least not an unprobable Account of the Manner of the Production of *Animals* and *Vegetables*; and I was content to let this rude *Specimen* thereof appear in this place, to convince the Reader, that the Matter might be (as himself complains) and for ever wou'd be a *Mystery* to C. O. yer it was not altogether so to others. The particular

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Illustration and Confirmation of this Doctrine, as likeways the many useful *Corrollaries* thence to be deduc'd, I leave to a fitter occasion, when perhaps I shall explain mechanically the whole *Animal OEconomy*.

VII. Next C. O. falls foul of A. P. because he explains the Effects of *Anodynes* and the cause of *Sleepy Distempers* from the *Distension* of the small *Arteries*, and their Action upon the *Nervous Fibres* of the Brain; and alledges this Notion is likeways stolen from *Bellini*. Such a way of talking without Fear or Shame, wou'd almost make one lose his Temper: *Bellini* indeed has pretty naturally explain'd the Diseases of the Head, But he has no where considered the Manner of the Operation of particular Medicines. It is strange to see one of so high *Preterensions* to sleep in their *Apprehension*, as not to be able to distinguish betwixt the Cause and the Effect. *Bellini*, upon supposition the small *Arteries* of the Brain were distended by whatever Cause, did show what Effects wou'd follow upon it; A. P. on the other Hand, shows that the Nature of *Opium* and other *Anodynes* is such, as to produce a *Rarification* and a greater *Velocity* in the Blood, which must distend the *Arteries*. Are not these two different, and can there be any thing in the latter

ter stolen from the former? C. O. here runs on his ordinary Course, makes a Poacher with a Quotation out of *Bellini*, which is no more to his Purpose, than one out of *Apollon Mathematicus*. He complains A. P. has maim'd and strait'n'd *Bellini's* Doctrine about the ways of stoping the *Influx* of the Animal Spirits into the *Muscles*, None of which A. P. was any ways concern'd about, but that arising from the *Rarification* and *Velocity* of the Blood, which he has duly considered. But to let the World see, what a happy Turn of Head he himself has at *Philosophie*, C. O. is pleas'd to communicat his own Explication of Natural Sleep. Sleep says he (hear him) is an Unbending of the *Fibres* of these *Muscles*, which have a continual Struggle with their *Antagonists*. Dr. J. is in the wrong to accuse him of having borrow'd this Notion; It is an Original, and was never broach'd by any but himself. For 1. it supposes there may be some *Muscles* without *Antagonists* or something equivalent thereunto, which I am sure never any one dream'd, who understood any thing of *Muscular Motion* or of the *Animal economy*; for without an *Antagonist* or something equivalent thereunto, if a Muscle were once contracted, it shou'd still continue so. 2. At best this

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Explication points only at an Effect and not the Formal Cause of Sleep; For supposing this, we still want to know the Cause of this Relaxation of the *Muscular Fibres*: And that this even in the soundest Acceptation, is only one *Concomitant* of Natural Sleep, is evident to him, who considers, that some Animals will ly in a careless unactive Posture for some Weeks, nay Months, without so much as a *Nap*. 3. We know that there are some Animals, which will move all their *Muscles* as violently when asleep as awake, as Night-walkers and those who talk in their Sleep; which intirely overthrows this Fine Piece of Philosophie. 4. The easiest Posture for the Members, and that which occasions the least Expense of Animal Spirits, is the Mean betwixt Extreme Contraction and Expansion, And this only requires an *Equilibrium* betwixt the *Muscle* and its *Antagonist*, and not an intire Relaxation; for as long as the Animal lives, there can not be an absolute and intire Relaxation even of the Voluntary Muscles; for then the *Circulation* through such Muscles wou'd be altogether stop'd; And if all C. O's Muscles that have Antagonists were intirely relax'd, I shou'd despair of ever seeing a Reply to these Papers, for they say, *Mortui non mordent*; and I am sure

he wou'd leave none behind him, who wou'd undertake his Defence in such a Cause. Thus you see what an Old dog C. O. is at *Philosophie*, and were it not a great Pity that all others shou'd not be silenc'd, that he alone might have liberty to inform the World.

VIII. In the Last Place he *Attacques A. P's Dissertation* about the Cure of Fevers, and very wisely imagins, that because in proposing the *Problem*. A. P. says, *Si ulla evacuatio foret eligenda*, he therefore doubted if any *Evacuation* was proper in Acute Fevers; tho' his only design was to determine the fittest *Evacuation*. I have before observed that this is the very Language in which all *Problems* ought to be proposed, that they may include all possible Cases, and exclude all Possible Cavil. A. P. knew very well, that in some Sorts of *Fevers viz.* Slow consumptive ones, *Evacuations* often did Hurt in stead of doing Good, and therefore to remove all Occasions of Mistake, he adds this Limitation, to confine the general word *Fevers*, to Acute ones: He shows here that any Fluid may be secern'd by any *Gland*, and that the *Evacuations* by *Perspiration* are greater than by all the others put together, which is the only thing he undertook to demonstrate; which he has so far perform'd, that

that in my Humble Opinion, this is not the least Accurate *Dissertation* in his whole Works. But this whole Affair is so plainly and fully laid down according to A. P's Mind, in the *New Theory of Fevers*, that having now at large answered ev'ry thing that looks like an Objection (except his Railing and calling Names) in his refin'd Pieces, I shall in a Few Words (being altogether weary of so inglorious and unpleasant a Labour) examin what he has to say against that *Treatise*.

I have told the World before, that the Principal Inducement I had to publish any thing on such a Pen'd, was a Concern for the Honour and Reputation of my Countrey, having seen a good Cause so pitifully bungled by a *Fluttering Pretender*: His Insolence and Indiscretion both in Privat and Publick; made me afterwards point out the *Jack-daw*, not by his Name but by a Part of his *inde-
lible Character*. Those who know under what Disadvantages and in what Haste that Treatise was pen'd, will easily pardon its Failings; such as they are C. O. is neither capable of mending nor discovering, for it was not for such Men I wrote; It had been unintelligible to him, had it been set off with all the Finery of *Eloquence*, which neither

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cou'd the Matter bear, nor my Occasions furnish me with; *Ornari res ipsa negat contenta doceri.* Notwithstanding I had told all this in the Preface, he most ingloriously falls upon the Language, not daring to venture his *Teeth* upon the Matter, it being too hard for them: If my Friends here (who are Competent Judges) do not Flatter me too much, the Language is fitted well enough for the Matter, which is all that can be done in such an Affair; And as *Bellini* has it, He only *descendit obscuritatem causabitur, qui necessariis disciplinis non instructus accesserit.* However, If that will do him any service, I will give him up the Language, for him and his Translators to exercise their Talents upon. It has met with much Better Reception, than I cou'd either promise or expect, or than such things usually get, I had in the first *Edition* thereof told that it was indifferent to me what became of it, since I neither resolved to found my Reputation nor Quiet upon the fortune of such *Performances*. But since it has been kindly receiv'd by some of the best Judges, and since I know that the Whole is Demonstrable Truth, If I have Leisure to goe that Way, I shall put all the Matters contain'd therein in such a Light, as shall intirely satisfy all those who understand the few

necessary *Præcognita*, tho it will always be as far above C. O. and his Interpreters as *Euclide* and *Apollonius* are;

-----*Demetri req; Tigelli*

Discipularum inter jubeo plorare cathedras.

I shou'd not so much as offer to justify that Treatise from so Weak Accusations as C. O. has brought against it, were it not for the satisfaction of those who have not Leisure, or will not give themselves the Trouble to look into those Authors, from whom he has accus'd me of filching. It is still the same Objection, The *New Theory of Fevers* is wholly stoln from *Borelli* and *Bellini*. Every body ought to speak discreetly of these great men who have deserv'd so very well of Medicine, Yet it is certain as to the present Subject of Debate, they had Opinions different from one another, so that one of them at least must be in the wrong, and consequently I cou'd not have stoln the same Doctrine from 'em both. *Borelli's* Opinion is plain from 227 *Prop.* of his Second Part viz. that the principal cause of Acute Fevers is the *Succus nervæus fermentatus & acedine affectus*; and again *Animadverto quod succi illi destinati ut e nervis expellantur deponanturq; in Glandulis, fieri potest ut casu aliquo detineantur in eisdem nervis, obturatis nimirum mea-*

*metibus & astiolis nervulorum in Glandulis
 desinentium ob plethoram vel gluten aliquod
 in eis contentum; hi vero retenti in nervis
 facile degenerare possunt fermentatione in ali-
 enam naturam animali noxiam &c. And again
 Quae excerni debuerant e nervis &c. From
 which and from his whole Discourse on this
 Head it is evident, that an Acidity (by what
 ever Manner acquir'd and) communicated
 to the *Nervous juice*, and there by produ-
 cing a Frequent Pulse (which he falsely
 thought the Distinguishing Symptom of a Fe-
 ver, and that upon which the rest depended)
 was in his Opinion the main and principal
 Cause of Acute Fevers: He likewise expres-
 sly declares, that the Blood has no part in
 the Production of the Fatal Distemper, which
 is not only false but directly contrary to my
 Doctrine, which lays the whole Stress of the
 Affair, on the *Arterial Fluid*: And if these
 two be not different I leave the Reader to
 judge. As to *Bellini*, he was indeed a little
 nearer the matter, having had Occasion to
 observe where and why *Borelli* fail'd; But
 then his Doctrine is so general, that it will
 apply to any Distemper whose Cause is in-
 ternal, as well as to a Fever. It is evident
 from his whole Discourse on this Subject,
 that he was afraid of venturing too far; he
 dar'd*

dar'd not trust him self with assigning either the immediat Cause, Subject or Place, where this Mischief had its Rise: He is extremely cautious here, and delivers general *Theorems*, which indeed are true, but do not come close to the Point. Says he *Prop. 35. De Febribus; Febris est vitium sanguinis aut in motu, aut in quantitate, aut in qualitate ejus, aut in harum aliquibus aut in omnibus* (which is the sum of his Whole Doctrine on the Head, as himself hath compendis'd it) and so indeed is ev'ry Distemper whose Cause is internal; But he no where says, that The General and most Effectual Cause of all Fevers, is the *Obstruction* or *Dilatation* of the Glands. *Vide Page 11. New Theory of Fevers.* Besides, neither *Borelli* nor *Bellini* (perhaps at that time) understood the true Structure of the Glands, nor the *adequate* Nature of the Circulation of the Blood in its full Extent, upon which the *New Theory* is built. I told in the *Preface* of that Book, that I made use of *Borelli* and *Bellini* and other Authors likewise, where they made for my purpose; And shou'd have used C^r O's Noble Works so too, If I had found any thing in them for my Design, that wou'd have endur'd Repetition. *Borelli* and *Bellini's* Works are standard Books. and men who reason in *Medicine* af-
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ret them, must use them as the text. But I defy C. O. or any one for him, to show any where I have borrow'd any Principal Proposition from them, and have not mention'd it: There is in that *Treatise*, as short as it is, *Materials* for a Work as big as either *Borelli's* or *Bellini's* Book; And if some few of the Notions may have been hinted before, the Improvements are all new, and I doubt ev'ry Single Sentence of will be so to C. O. all his life.

Thus I think I have fairly made out in the genera That true *Mechanical Theories* in *Medicine* are Sever Ways useful, both as being just Accounts of the wondrous full *Appearances* of Nature, and as serving to demonstrate the infinit Wisdom of God in the Works of the Creation. And that without such, Physicians must be often at a loss in *Medicine* at a Stand, and *Quacks* undistinguishable from *Ingenious* and honest *Practitioners*: I have likewise made out that A. P.'s Performances are highly serviceable, both in the Theory and Practice of *Medicine*; and that they are in the Main both new, just and his own; That the *New Theory of Fevers* is neither stoln from *Borelli* nor *Bellini*, But that the Substance of it was before entirely unknown, and that there are many Improvements of the formerly known Notions which I use; That C. O. is an Ignorant Pretender, an Unjust Detractor and a False Friend; And that his *Translators* are Incompetent Judges and meddling *Coxcombs*, *Qua Erant Facienda*.

F I N I S.

